VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a Minor, Industrial permit. The effluent limitations contained in this permit will maintain the Water Quality Standards (WQS) of 9 VAC 25-260. The proposed discharge will result from the operation of a concentrated, aquatic animal (trout) production facility (SIC Code: 0273 – Animal Aquaculture; 0921 – Fish Hatcheries). This permit action consists of reissuing the permit with revisions to the permit, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Facility Name and Address:
   Casta Line Trout Farm – Craigsville
   97 Golden Brook Lane
   Goshen, VA 24439
   Location: 97 Golden Brook Lane, Goshen

2. Permit No. VA0091227; Expiration Date: October 31, 2013

3. Owner: Bryan Plemmons
   Title: Managing Partner
   Telephone No: (540) 997-5461

4. Description of Treatment Works: Appendix A
   Total Number of Outfalls: 2

5. Application Complete Date: March 20, 2013

   Permit Writer: Eric Millard Date: 7/25/13
   Reviewed By: Dawn Jeffries Date: 7/29/13

   Public Comment Period: _____ to _____

6. Receiving Stream Name: Wallace Mill Stream
   River Mile: 0.98
   Use Impairment: Yes
   Special Standards: None
   Tidal Waters: No
   Watershed Name: VAV-I32R, Little Calfpasture River
   Basin: James (Upper); Subbasin: N/A
   Section: 12; Class: IV

7. Operator License Requirements per 9 VAC 25-31-200.C: None

8. Reliability Class per 9 VAC 25-790: N/A

9. Permit Characterization:
   ☑ Private ☐ Federal ☐ State ☐ POTW ☐ PVOTW
   ☐ Possible Interstate Effect ☐ Interim Limits in Other Document (attach copy of CSO)

10. Discharge Location Description and Receiving Waters Information: Appendix B

11. Antidegradation (AD) Review & Comments per 9 VAC 25-260-30:
    Tier Designation: Tier 1

    The State Water Control Board's WQS include an AD policy. All state surface waters are provided one of three levels of AD protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 waters have water quality that is better than the WQS. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 waters are exceptional waters and are so designated by regulatory amendment. The AD policy prohibits new or expanded discharges into exceptional waters.

    The AD review begins with a Tier determination. Wallace Mill Stream in the immediate vicinity of the discharge is listed as impaired for not meeting the General Standard (Benthics) and is therefore determined to be a Tier 1 water. AD baselines are not calculated for Tier 1 waters.

12. Site Inspection: Performed by Bill Maddox on January 26, 2010.

13. Effluent Screening and Effluent Limitations: Appendix C

14. Whole Effluent Toxicity (WET) Program Requirements per 9 VAC 25-31-220.D: N/A

15. Solids generated by fish production are managed in accordance with the Solids Management Plan (SMP) approved April 18, 2005.

16. Bases for Special Conditions: Appendix D

17. Material Storage per 9 VAC 25-31-280.B.2: This permit requires that the facility's O&M Manual include information to address the management of wastes, fluids, and pollutants which may be present at the facility, to avoid unauthorized discharge of such materials.

18. Antibacksliding Review per 9 VAC 25-31-220.L: This permit complies with the antibacksliding provisions of the VPDES Permit Regulation.

19. Impaired Use Status Evaluation per 9 VAC 25-31-220.D: Wallace Mill Stream in the vicinity of the discharge is listed in the current 303(d) list of impaired waters for not meeting the General Standard (Benthics). A TMDL has been established for this impairment and identifies Organic Solids as the cause for the impairment. The TMDL established a WLA of 2,814 pounds of organic solids per year for this facility.

20. Regulation of Users per 9 VAC 25-31-280.B.9: N/A

21. Storm Water Management per 9 VAC 25-31-120: Application Required? ☐Yes ☑No
    The SIC Code for this facility does not fall within the categories requiring storm water special conditions.

22. Compliance Schedule per 9 VAC 25-31-250: There are no compliance schedules included in the reissued permit.

23. Variances/Alternative Limits or Conditions per 9 VAC 25-31-280.B, 100.J, 100.P, and 100.M: None

24. Financial Assurance Applicability per 9 VAC 25: N/A – This facility does not serve private residences.

25. Virginia Environmental Excellence Program (VEEP) Evaluation per § 10.1-1187.1-7: At the time of this reissuance, is this facility considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level? ☐ Yes ☑ No

26. Nutrient Trading Regulation per 9 VAC 25-820: See Appendix C
    General Permit Required: ☐ Yes ☑ No

27. Threatened and Endangered (T&E) Species Screening per 9 VAC 25-260-20 B.8: Because this is not a permit issuance or a reissuance that allows for increased discharge flows, and DCR and DGIF have not requested an opportunity to review the application, T&E screening is not required.

28. Public Notice Information per 9 VAC 25-31-280.B: All pertinent information is on file, and may be inspected and copied by contacting Eric Millard at: DEQ-Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801, Telephone No. (540) 574-7813, eric.millard@deq.virginia.gov.

    Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

29. Historical Record:

    - Facility issued a VPDES Individual Permit in the late 1980s.
    - Facility issued coverage under VPDES General Permit for Concentrated Aquatic Animal Production Facilities No. VAG131002 with an effective date of March 5, 1998, and expiration date of March 5, 2003.
    - VPDES Individual Permit No. VA0091227 was issued on November 5, 2003.
    - VPDES Individual Permit was reissued on November 5, 2008.

APPENDIX A

FACILITY AND TREATMENT WORKS DESCRIPTIONS

Existing Facility and Treatment Works

Wastewater is produced by the production of trout grown in raceways and operation of a hatchery using flowing spring water. The discharge is continuous and the quantity varies with the volume of water generated by the spring. The quality of the discharge varies depending on number and size of fish in production, amount and quality of feed provided to the fish, activities performed within the raceways (e.g., feeding, maintenance, harvesting), and ambient temperature.

The farm consists of 27 raceways and upper and lower settling basins. A combined average flow (based on data provided in the application) of 0.76 MGD is directed out of an unnamed spring into the raceways.

Fish from this facility are sold to private customers. The facility does not include a slaughter operation, and the permit does not authorize the discharge of treated or untreated process wastewater to surface waters from any fish processing operation including wastewater resulting from butchering or cleaning, washing, packing and processing-related cleaning of facilities or equipment.

The permit application indicates the following chemicals are used at the facility. These chemical uses are addressed in the O&M Manual, and may not be discharged in amounts that are toxic to aquatic life.

Salt (NaCl)	-	62.5 ppt for 1 hour flow through treatment
	-	Used for control of gill bacteria less than 5 times per year.
Cutrine Plus	-	2 ppm for 1 hour flow through treatment.
	-	Used to control algae once every 2 weeks.

Domestic sewage generated at this location is treated onsite. The permit does not authorize the discharge of treated or untreated sewage to surface waters.

The trout farm typically produces the following types, numbers, and pounds of fish annually:

Species of Fish	Pounds of Fish	
	Total Yearly	Maximum Present
Rainbow Trout	60,000 lbs.	30,000 lbs.
Brook Trout	10,000 lbs.	5,000 lbs.
Brown Trout	5,000 lbs.	2,500 lbs.

Treatment Works Description and Schematic

The upper 18 concrete raceways are arranged in series with a quiescent zone at the end of each raceway for solids collection. Siphoned solids from the upper raceways are directed to the upper sedimentation pond. Between the upper and lower raceways, there is approximately 1000 feet of natural stream channel. The lower raceways include 9 raceways arranged in series. Flow at the end of all the raceways flows through the lower settling pond and into the fee fishing pond that provides a minimum detention time of 20 minutes.

Based on conversations with the permittee, the upper sedimentation pond will produce a discharge for approximately 15 minutes per day due to daily cleaning/solids removal from the upper raceways. Outfall 001 does not capture the process wastewater from the upper sedimentation pond because it was located at the outlet of the current fee fishing pond. A new Outfall 002 will be added at this reissuance below the upper sedimentation pond. The permittee requested a single outfall in Wallace Mill Stream below the confluence with the fee fishing pond

because (1) a single outfall would reduce monitoring costs and capture all process wastewaters, (2) essentially 100% of the spring flow is directed through the fish farm and discharges through the fee fishing pond, and (3) potential sources of TSS coming from offsite are minimal. A single outfall located in Wallace Mill Creek was determined to be unacceptable due to issues with determining effluent flow, which is used in calculating quarterly and annual TSS loading values. Because the facility discharges to a TMDL listed segment and utilizes BMPs in lieu of concentration limits (monitoring only), it was determined necessary to have an accurate measurement of the annual TSS load produced by the facility.

Disposal of Solids

Solids captured in the upper quiescent zones are siphoned to either the upper settling basin or land applied to the 2.5 acre wooded lot. Accumulated solids in the lower raceway quiescent zones are also siphoned and land applied. Cleanout of the settling basins is performed as needed based on the level of accumulated solids. The solids are also siphoned and land applied. Cleaning frequency varies depending on level of production, weather conditions, and water flow at any given time of year, but the total volume removed will not exceed 192,000 gallons per year. Further details of the land application operation are provided in the approved Solids Management Plan.

Flow:

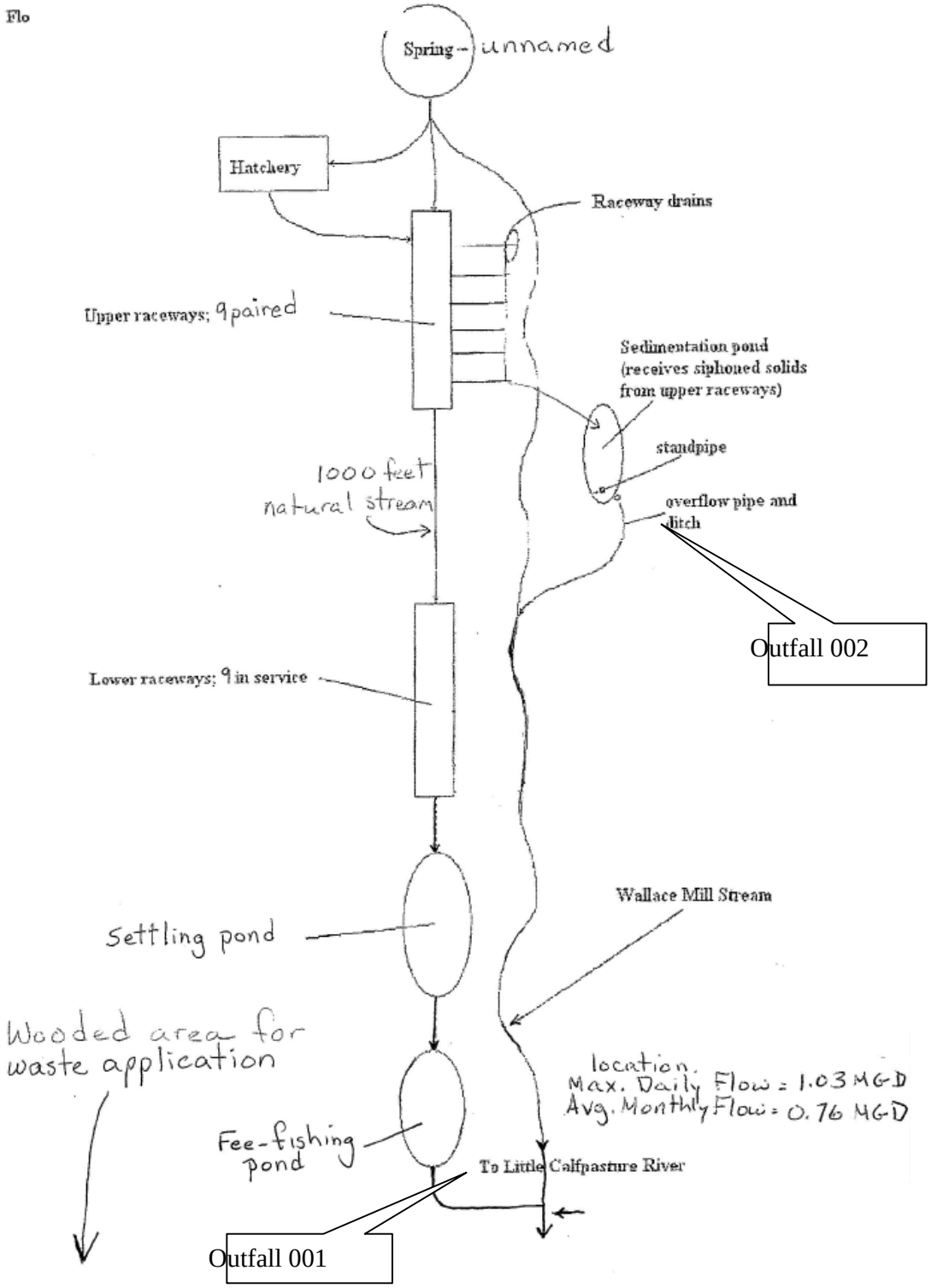
The discharge flows for the unnamed spring described in the previous documents and the current application are:

Application Submitted	Maximum Daily Flow	Average Monthly Flow	Units
2008	1.15	0.74	MGD
2013	1.03	0.76	MGD

Other Discharges from this Site:

There are no discrete storm water conveyances. Storm water from this site is discharged as sheet flow across grassy areas.

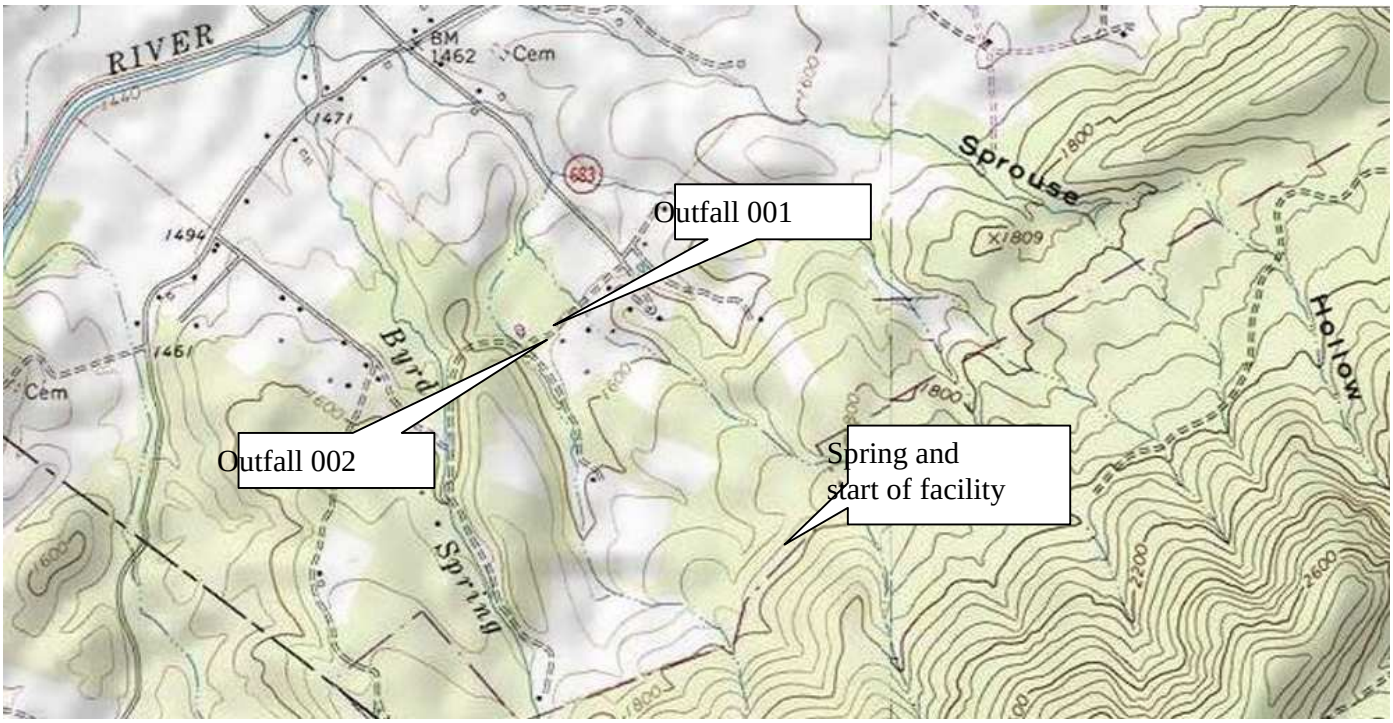
Facility Diagram:



APPENDIX B

DISCHARGE LOCATION AND RECEIVING WATERS INFORMATION

This facility discharges to Wallace Mill Stream. The location of the spring and the outfall is shown on the topographic map below. A stream flow frequency determination and mixing zone analysis are deemed unnecessary because there are no monitoring data for parameters for which the Board has adopted Water Quality Criteria.



PLANNING INFORMATION

Relevant points of interest within the watershed and in the vicinity of the discharge are shown on the Water Quality Assessments Review table and corresponding map below.

WATER QUALITY ASSESSMENTS REVIEW
UPPER JAMES RIVER BASIN
7/2/2013

IMPAIRED SEGMENTS

SEGMENT ID	STREAM	SEGMENT START	SEGMENT END	SEGMENT LENGTH	PARAMETER	
I30R-01-BAC	Calfpasture River	26.52	4.47	22.05	E-coli	
I32R-01-BEN	Wallace Mill Stream	0.89	0.00	0.89	Benthic	
I32R-03-BAC	Little Calfpasture River	22.28	11.96	10.32	Fecal Coliform	

PERMITS

PERMIT	FACILITY	STREAM	RIVER MILE	LAT	LONG	WBID
VA0091227	**Castaline-Craigsville**	**Wallace Mill Stream**	**0.98**	**380224**	**0792310**	**VAV-I32R**
VA0090395	Augusta Springs WTP	Little Calfpasture River X-trib	0.01	380618	0791915	VAV-I32R
VA0091821	Craigsville STP	Smith Creek	1.62	380331	0792244	VAV-I32R

MONITORING STATIONS

STREAM	NAME	RIVER MILE	RECORD	LAT	LONG	
Kelso Spring Branch	2-KSB000.25	0.25		375927	0792607	
Little Calfpasture River	2-LCF007.00	7.00	7/1/91	380109	0792559	
Little Calfpasture River	2-LCF011.72	11.72	1/17/02	380313	0792338	
Little Calfpasture River	2-LCF013.93	13.93	6/20/01	380440	0792205	
Little Calfpasture River	2-LCF014.12	14.12	7/2001	380439	0792205	
Little Calfpasture River	2-LCF019.28	19.28		380651	0791736	
Smith Creek	2-SMI000.22	0.22	1/17/02	380307	0792334	
Bryd Creek UT	2-XMO000.64	0.64	5/8/01	380227	0792302	
Glover Run UT	2-XXG000.16	0.16	11/1/01	380110	0792355	
Little Calfpasture River	2-LCF004.80	4.80	10/13/93	380012	0792630	
Little Calfpasture River	2-LCF006.64	6.64		380053	0792552	
Wallace Mill Branch	2-XMO000.04	0.04	8/15/00	380244	0792324	

PUBLIC WATER SUPPLY INTAKES

OWNER	STREAM	RIVER MILE				
None						

WATER QUALITY MANAGEMENT PLANNING REGULATION

Is this discharge addressed in the WQMP regulation? **No**

If Yes, what effluent limitations or restrictions does the WQMP regulation impose on this discharge?

PARAMETER	ALLOCATION					

WATERSHED NAME

VAV-I32R Little Calfpasture River

NPDES PERMIT RATING WORKSHEET

Facilities identified under SIC 0273 – Animal Aquaculture and SIC 0921 – Fish Hatcheries, have the following characteristics as defined in Appendix A to the NPDES Permit Rating Work Sheet found in the VPDES Permit Manual.

1987 SIC Code Title	ELG Subcategory	ELG Subcategory Title	Human Health Toxicity Number	Total Toxicity Number	Industrial Sub-Category Number
0273 – Animal Aquaculture	NR	NR	1	1	99
0921 – Fish Hatcheries	NR	NR	1	1	99

A new Worksheet was prepared at this reissuance. The results of the review are detailed below. This Worksheet indicates a Score of **35** points.

Factor 1 – Toxic Pollutant Potential: 5 Points
The facility has one process waste stream; the discharge of water from the raceways. Toxicity Group number 1 corresponds to code 1, resulting in 5 points for this factor. This is unchanged from the previous rating.

Factor 2 – Flow/Stream Flow Volume: 20 Points
The instream waste concentration (IWC) was previously determined in 2003 and 2008 to be 10% to <50%. For Type II wastewaters, when the IWC is 10% to <50%, the resulting score for this factor is 20 points. The 2003 and 2008 evaluations were deemed applicable to the current discharge and receiving stream conditions. This is unchanged from the previous rating.

Factor 3 – Conventional Pollutants: 0 Points
The permit does not contain limits for: Oxygen Demanding Pollutants, Total Suspended Solids (TSS), or Nitrogen Pollutants. Effluent TSS is limited through the implementation of Best Management Practices. This is unchanged from the previous rating.

Factor 4 – Public Health Impact: 0 Points
Using a worst case evaluation, it is assumed that there is a public drinking water supply within 50 miles downstream of the facility. A human health toxicity number of 1 corresponds to code 1, resulting in 0 points for this factor. This is unchanged from the previous rating.

Factor 5.A. – A wasteload allocation has been assigned to the discharge, resulting in 10 points for this factor. This is unchanged from the previous rating.

Factor 5.B. – There are no pollutants that are water quality limited in the permit. This is changed from the previous rating.

Factor 5.C. – The permit does not contain Toxics Management Program requirements. This is unchanged from the previous rating.

Factor 6. – Proximity to Near Coastal Waters: Headquarters Priority Permit Indicator (HPRI) Code #4 – This discharge occurs in a non-coastal county. This is unchanged from the previous rating.

NPDES PERMIT RATING WORK SHEET

[ ] Regular Addition
[ ] Discretionary Addition
[X] Score change, but no status change
[ ] Deletion

NPDES NO. **VA0091227**

Facility Name: **Casta Line Trout Farm - Craigsville**

City: **N/A**

Receiving Water: **Wallace Mill Stream**

Reach Number:

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?
1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate
[ ] YES; score is 600 (stop here) [X] NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary SIC Code: **0273** Other SIC Codes: _____
Industrial Subcategory Code: **99** (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams			[ ] 3.			[ ] 7.	7	35
[X] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: **1**

Total Points Factor 1: **5**

FACTOR 2: Flow/Stream Flow Volume *(Complete either Section A or Section B; check only one)*

Section A [ ] Wastewater Flow Only Considered

Wastewater Type (See Instructions)		Code	Points
Type I: Flow < 5 MGD	[ ]	11	0
Flow 5 to 10 MGD	[ ]	12	10
Flow > 10 to 50 MGD	[ ]	13	20
Flow > 50 MGD	[ ]	14	30
Type II: Flow < 1 MGD	[ ]	21	10
Flow 1 to 5 MGD	[ ]	22	20
Flow > 5 to 10 MGD	[ ]	23	30
Flow > 10 MGD	[ ]	24	50
Type III: Flow < 1 MGD	[ ]	31	0
Flow 1 to 5 MGD	[ ]	32	10
Flow > 5 to 10 MGD	[ ]	33	20
Flow > 10 MGD	[ ]	34	3

Section B [X] Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50 %	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to <50 %	[X]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: **52**

Total Points Factor 2: **20**

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) [ ] BOD [ ] COD [ ] Other: N/A

			Code	Points
Permit Limits: (check one)	[ ]	< 100 lbs/day	1	0
	[ ]	100 to 1000 lbs/day	2	5
	[ ]	> 1000 to 3000 lbs/day	3	15
	[ ]	> 3000 lbs/day	4	20

Code Checked : **N/A**

Points Scored: **N/A**

B. Total Suspended Solids (TSS)

			Code	Points
Permit Limits: (check one)	[ ]	< 100 lbs/day	1	0
	[ ]	100 to 1000 lbs/day	2	5
	[ ]	> 1000 to 5000 lbs/day	3	15
	[ ]	> 5000 lbs/day	4	20

Code Checked : **N/A**

Points Scored: **N/A**

C. Nitrogen Pollutant: (check one) [ ] Ammonia [ ] Other: N/A

		Nitrogen Equivalent	Code	Points
Permit Limits: (check one)	[ ]	< 300 lbs/day	1	0
	[ ]	300 to 1000 lbs/day	2	5
	[ ]	> 1000 to 3000 lbs/day	3	15
	[ ]	> 3000 lbs/day	4	20

Code Checked : **N/A**

Points Scored: **N/A**

Total Points Factor 3: **0**

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

[X]YES (If yes, check toxicity potential number below)

[ ] NO (If no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column [ ] check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams	0	0	[ ] 3.	3	0	[ ] 7.	7	15
[X] 1.	1	0	[ ] 4.	4	0	[ ] 8.	8	20
[ ] 2.	2	0	[ ] 5.	5	5	[ ] 9.	9	25
			[ ] 6.	6	10	[ ] 10.	10	30

Code Number Checked : **1**

Total Points Factor 4: **0**

FACTOR 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge:

		Code	Points
[X]	Yes	1	10
[ ]	No	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

		Code	Points
[ ]	Yes	1	0 N/A
[ ]	No	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

		Code	Points
[ ]	Yes	1	10
[X]	No	2	0

Code Number Checked : A 1 B N/A C 2

Total Points Factor 5: A **10** + B **N/A** + C **0** = **10** TOTAL

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from Factor 2): **53**

Enter the multiplication factor that corresponds to the flow code: **0.60**

Check appropriate facility HPRI Code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[ ]	2	2	0
[ ]	3	3	30
[X]	4	4	0
[ ]	5	5	20

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked: 4

Base Score: (HPRI Score) **0** x (Multiplication Factor) **0.60** = **0** (TOTAL POINTS)

B. Additional Points --- NEP Program
For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay? **N/A**

	Code	Points
[ ] Yes	1	10
[ ] No	2	0

C. Additional Points --- Great Lakes Area of Concern
For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)? **N/A**

	Code	Points
[ ] Yes	1	10
[ ] No	2	0

Code Number Checked : A 0 B N/A C N/A

Points Factor 6: A **0** + B **N/A** + C **N/A** = **0** TOTAL

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	**5**
2	Flows/Stream Flow Volume	**20**
3	Conventional Pollutants	**0**
4	Public Health Impacts	**0**
5	Water Quality Factors	**10**
6	Proximity to Near Coastal Waters	**0**
	TOTAL (Factors 1-6)	**35**

S1. Is the total score equal to or greater than 80? [ ] Yes (Facility is a major) [X] No

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

[X] No

[ ] Yes (Add 500 points to the above score and provide reason below:

Reason: _____

_____

_____

_____

New Score: **35**

Old Score: **40**

Eric Millard
Permit Reviewer's Name

540-574-7813
Phone Number

July 24, 2013
Date

APPENDIX C

EFFLUENT SCREENING AND EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS

A comparison of technology and water quality-based limits was performed and the most stringent limits were selected, as summarized in the table below.

Outfall 001 – Below Fee Fishing Pond **Final Limits** **Facility Average Flow: 0.76 MGD**

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average		Maximum		Frequency	Sample Type
Flow (MGD)	1	NL		NL		1/3 Months	Estimate
TSS	2	NL mg/L	NL kg/d	NL mg/L	NL kg/d	1/ 3 Months	Composite
Suspended Solids, Quarterly Load (lb/month)	2	NA		NL		1/ 3 Months	Calculated
Suspended Solids, Year to Date (lb/year) *	3	NA		NL		1/ 3 Months	Calculated

Outfall 002 – Upper Sedimentation Pond **Final Limits** **Facility Average Flow: 0.76 MGD**

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average		Maximum		Frequency	Sample Type
Flow (MGD)	1	NL		NL		1/3 Months	Estimate
TSS	2	NL mg/L	NL kg/d	NL mg/L	NL kg/d	1/ 3 Months	Grab
Suspended Solids, Quarterly Load (lb/month)	2	NA		NL		1/ 3 Months	Calculated
Suspended Solids, Year to Date (lb/year) *	3	NA		NL		1/ 3 Months	Calculated

** = Report Year to Date load as the sum of the quarterly lb/quarter load values during the calendar year.*
1/3 months = Quarterly sampling with the results submitted with the DMR due January 10th, April 10th, July 10th and October 10th of each year
NL = No Limitation, monitoring required
Composite = Combination of eight or fewer hourly grab samples, collected over the duration of a normal operating day during periods of representative discharges, including discharges during fish harvesting, unit cleaning, and/or solids removal operations.

BASIS DESCRIPTIONS

1. VPDES Permit Regulation (9 VAC 25-31)
2. Best Professional Judgment (BPJ)
3. EPA directive from 2/7/08 conference call.

LIMITING FACTORS – OVERVIEW:
The following potential limiting factors have been considered in developing this permit and fact sheet:

Water Quality Management Plan Regulation (WQMP) (9 VAC 25-720)	
A. TMDL limits	**TSS via approved BMPs**
B. Non-TMDL WLAs	**None**
C. CBP (TN & TP) WLAs	**None**
Federal Effluent Guidelines	**Not applicable**
BPJ/Agency Guidance limits	**TSS**
Water Quality-based Limits - numeric	**None**
Water Quality-based Limits - narrative	**None**
Technology-based Limits (9 VAC 25-40-70)	**None**
Whole Effluent Toxicity (WET)	**Not applicable**
Storm Water Limits	**Not applicable**

EVALUATION OF THE EFFLUENT:
The 1998[1] Fact Sheet (FS) developed for the issuance of the General Permit for Concentrated Aquatic Animal Production Facilities documented the state-wide evaluation of the discharges authorized by individual VPDES Permits for these facilities. The FS documented the review of the available effluent data and determined that: 1) Ammonia-N, Dissolved Oxygen, BOD, Temperature, pH and Nutrients are not significant in the discharges; 2) Ammonia-N, Dissolved Oxygen, BOD, pH and Nutrients are associated with solids (controlled by TSS and SS limitations); 3) there is no evidence for Oxygen depletion due to BOD; 4) Ammonia-N was present in low concentrations and limits were not required when performing a reasonable potential analysis for toxics under worst case conditions; and 5) nutrients were at low levels consistent with the nutrient policy. This new information satisfied the exception to the antibacksliding policy and no limits for these parameters were imposed in the individual permits issued in 2003.

Previous benthic surveys indicate the benthos in Wallace Mill Stream have been impacted by excessive solids. Technology-based effluent limits for Total Suspended Solids (TSS) and Settleable Solids (SS), with concurrent flow monitoring, were imposed in the General Permit based on Agency guidance.[2] A water quality based special condition was also imposed as a performance criterion for organic solids to ensure that the general standard is maintained.

The evaluation of possible stressors performed during the development of a TMDL[3] for streams impacted by trout farms considered potential impacts from Ammonia-N (toxic), low DO, temperature, or pH. All instream data for these parameters downstream from these facilities were consistently better than the instream WQS. Nutrients (N and P) were considered probable stressors; however, the TMDL advisory panel of experts concluded that management activities to control solids would also control excess nutrients reaching the impaired streams. Organic solids (OS) were determined to be the critical stressor to the benthic macroinvertebrate community. The TMDL established effluent loads and limitations for TSS that would provide adequate controls for OS. Effluent limitations for SS were not carried forward from the General Permit to this individual permit in 2003 because OS was considered the critical stressor in the discharge. It was documented in the 2002 Fact Sheet[4] for issuance of this permit that deleting the limits for SS based on new information qualified for the exemption to backsliding provided at 9 VAC 25-31-220.L.2.b.(1).

The owner currently employs multiple BMPs at this facility, as recommended in the TMDL[3] report. A table comparing the BMPs recommended in the TMDL report with the actions the owner has, is, and may be taking to meet the TMDL goal follows:

TMDL Report Recommended BMPs	**Actions taken by Mr. Plemmons**	**Comments**
Use of high energy feed	Implemented	Have been utilized since issuance of the VPDES Individual permit in 2003
Redesign end-of-raceway settling basin to ensure at least a 20-minute detention time	Implemented	Employed an existing basin at the end of the raceways to achieve at least the 20-minute detention, but may achieve greater retention time by increasing the depth of the basin by installing additional dam boards
Frequent cleaning of sediment traps and settling basins	Implemented	All quiescent zones are cleaned on a bi-weekly basis, while the settling basins are cleaned out based on periodic inspections of solids levels as outlined in the approved SMP
Install, use, and maintain off-line settling basin to facilitate handling of additional solids collected from routine cleaning	Partially Implemented	The facility uses the upper settling basin (as seen in flow diagram) to store removed solids from the first 18 raceways until such time that cleanout of this basin it is deemed necessary. Solids removed from the lower 8 raceways and lower settling basin will be directly land applied in accordance with the approved SMP
Proper land application of the solids removed from sediment traps and settling basins	Implemented	Proper land application of removed solids performed in accordance with approved SMP

The facility does not meet the definition of "concentrated aquatic animal production facilities" as defined at 40 CFR 122.24[5] and Appendix C of 40 CFR Part 122[5]. The facility does not have annual production level of 100,000 pounds or more of aquatic animals, and therefore, the discharge is not subject to additional regulations under the Effluent Limitation Guideline at 40 CFR 451.[6]

The facility average flow was established as 0.76 MGD at this reissuance based on the long term average flow indicated in the reissuance application. Flow to the facility is controlled by spring output, which is variable based on prevailing climatic conditions and resultant groundwater table elevation.

The applicant requested reduced monitoring frequencies for all parameters from 1/Month to 1/3 Months, citing an excellent record with compliance and monitoring, and similar sized trout farms in Virginia that also allow 1/3 Months monitoring. A review of the facility's monitoring data from the previous permit term indicates that the facility is consistently producing TSS data at or near the QL. Based on the facility performance, a monitoring frequency of 1/3 Months for TSS and flow will be included at this reissuance.

References:

1. Fact Sheet for Issuance of a General VPDES Permit to Discharge to State Water and State Certification under the State Water Control Law. (Effective Date: March 5, 1998. Expiration Date: March 5, 2003)

2. Guidance Memo No. 98-2004. Implementation Guidance for VPDES General Permit VAG131000, Concentrated Aquatic Animal Production Facilities.

3. Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins. Submitted by Virginia Department of Environmental Quality and Virginia Department of Conservation and Recreation. Prepared by The Virginia Water Resources Research Center, Virginia Tech. April 29, 2002.

4. Fact Sheet for Issuance of VPDES Permit No. VA0091201 drafted by C. Kemper Loyd on November 15, 2002.

5. 40 CFR Part 122 - EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, 40 CFR Part 122.24 - Concentrated aquatic animal production facilities (applicable to State NPDES programs, Appendix C to 40 CFR Part 122 - Criteria for Determining a Concentrated Aquatic Animal Production Facility.

6. 40 CFR Part 451 - Concentrated Aquatic Animal Production Point Source Category, Subpart A—Flow-Through and Recirculating Systems

APPENDIX D

BASES FOR PERMIT SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified. Also provided is the basis for each of the permit special conditions.

Cover Page — Content and format as prescribed by the VPDES Permit Manual.

Part I.A.1. — **Effluent Limitations and Monitoring Requirements:** Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual. *Updates Part I.A.1. of the previous permit with the following.*

- Monitoring frequencies changed from 1/Month to 1/3 Months with associated footnote included.

Part I.A.2. — **Effluent Limitations and Monitoring Requirements:** Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual. *New requirement.*

- New outfall added to capture effluent from Upper Sedimentation Pond.

Part I.B. — **Effluent Limitations and Monitoring Requirements – Additional Instructions:** *Updates Part I.B. of the previous permit*. Added language for calculation of quarterly TSS loading values.

Part I.C.1. — **Materials Handling/Storage:** *Identical to Part I.C.1. of the previous permit***.** 9 VAC 25-31-280.B.2. requires that the types and quantities of "wastes, fluids, or pollutants which are … treated, stored, etc." be addressed for all permitted facilities.

Part I.C.2 — **O&M Manual Requirement:** *Updates Part I.C.2. of the previous permit.* Code of Virginia at 62.1-44.16, VPDES Permit Regulation 9 VAC 25-31-190 E, and 40 CFR 122.41(e) require proper operation and maintenance of the permitted facility.

Part I.C.3. — **BMPs and Wastewater Treatment Facilities:** *Updates Part I.C.3. of the previous permit.* Requires approved Best Management Practices (BMPs) and wastewater treatment facilities to be implemented and/or operated on a continual basis. Changes to the BMP plan or planned wastewater treatment facilities shall be submitted for staff approval within 90 days of the effective date of the changes. Applied to the permit using Best Professional Judgment in conjunction with EPA comment and concurrence.

Part I.C.4. — *Identical to Part I.C.4. of the previous permit.* Requires permittee to notify DEQ within 14 days of completion of construction of any project for which a Concept Engineering Report has been approved. § 62.1-44.16 of the Code of Virginia requires industrial facilities to obtain DEQ approval for proposed discharges of industrial wastewater.

Part I.C.5. — **Reopeners:**

a. *New Requirement:* Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

b. *Updates Part I.C.5. of the previous permit:* 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

Part I.C.6. — **Notification Levels:** *Identical to Part I.C.6. of the previous permit.* Required by the VPDES Permit Regulation 9 VAC 25-31-200 A for all manufacturing, commercial, mining, and silvicultural dischargers.

Part I.C.7. *Identical to Part I.C.7. of the previous permit.* Prohibits the discharge of sewage and is required since sewage wastewater discharges were not evaluated for limits under this permit.

Part I.C.8. *Identical to Part I.C.8. of the previous permit.* Prohibits the discharge of fish processing wastewater and is required since fish processing wastewater discharges were not evaluated for limits under this permit.

Part I.C.9. *Identical to Part I.C.9. of the previous permit.* Prohibits discharges containing unapproved chemicals, toxic chemicals, or chlorine and is required since those parameters were not evaluated for limits under this permit. DEQ shall have the opportunity to review and approve the use of all chemicals used in the production operation through the O&M Manual review and approval process.

Part I.C.10. *Identical to Part I.C.10. of the previous permit.* The prohibition of the discharge of excess organic solids is based on the narrative section of the WQS regulation.

Part II **Conditions Applicable to All VPDES Permits:** *Updates to Part II of previous permit.* VPDES Permit Regulation 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed. Part II.A.4. language added for Virginia Environmental Laboratory Accreditation Program (VELAP) per 1 VAC 30, Chapter 45: Certification for Noncommercial Environmental Laboratories, and 1 VAC 30, Chapter 46: Accreditation for Commercial Laboratories.

DELETIONS

None